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A MODERN COLLEGE
AND
A MODERN SCHOOL

A Modern College
and
A Modern School

By
Abraham Flexner

Garden City New York
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TO
WALLACE BUTTRICK

CONTENTS

I

PAGE

A Modern College 1

II

A Modern School 89

INTRODUCTION

THE essay entitled "A Modern College" was first drafted several years ago during a period of enforced idleness. I amused my too-abundant leisure by submitting it to friends, who were good enough to comment on it candidly and helpfully. From time to time I have revised it on the basis of their suggestions. Anything sound that it may contain is thus largely attributable to the patience and interest of those who have read it from time to time: my associates, Messrs. Gates, Buttrick, Rose, Vincent, Arnett, and Ruml, and friends like Mr. Anson Phelps Stokes, Mr. Charles P. Howland, Dr. Max Farrand, Professor Hanus, of Harvard, Presidents Angell, of Yale, Burton, of Chicago, Hopkins, of Dartmouth, and Capen, of Buffalo. But,

while I frankly acknowledge my indebtedness, I must not convey the impression that any one but the author is really responsible for the main thesis which the paper advances.

The other paper contained in this volume, "A Modern School," was originally published as an Occasional Paper by the General Education Board. Back of it there is a history that may perhaps not be altogether without interest. From 1886 to 1905 I was a high school teacher, mainly, though not exclusively, of Latin and Greek. I found it not difficult to accomplish with many pupils during the high school years a good deal more than the minimum requirement of the colleges in these subjects. With my better pupils I used to read Lysias, Andocides, and the miscellanies of Xenophon. Watching these same boys as they made their way through college and afterward into business or professional life I could not but be struck by the fact that even those who had done well did not seem in many

instances to derive benefits commensurate with the amount of time and energy they had devoted to their classical studies. As for the others—those who did less well, or who did not do at all well, I came slowly to two conclusions—(1) that they could have made a far more effective use of their school time, (2) that failure in classical studies is quite consistent with success in other efforts that are also valuable. It was President Eliot who, having just written a stimulating paper on "Changes Needed in American Secondary Education," suggested that, on the basis of my experience in high school teaching, I should put on paper my notion of what a secondary school should under modern conditions endeavor to be. The pamphlet entitled "A Modern School" was the result. Shortly after the publication of the two pamphlets by the General Education Board, Teachers College of Columbia University proposed to start an experimental school in general harmony with them, provided the funds

could be obtained. Thus the General Education Board was led to provide Teachers College of Columbia University with the funds required to establish the Lincoln School.

The Lincoln School has been in operation now for six years and is an extraordinarily interesting experiment in the field of primary and secondary education of modern type. It is, however, important to note that, though the school had its origin in the two pamphlets, one of which, revised and extended, is incorporated in the present volume, it is in essence an original enterprise, going far beyond anything that was in my mind or that I was myself capable of achieving. The essay was a mere starting point, from which the Director of the School, Doctor Caldwell, and his associates have developed an experiment that is at least as full of novelties as it is of problems. This is not the place, and it is probably not yet the moment, to appraise the Lincoln School; but I may at least record my con-

viction that, if education is ever to be re-made to meet the demands and opportunities of modern life, it is high time that concrete and scholarly endeavor be placed in the forefront. Our schools and colleges of education are at the moment giving excessive attention to theory and technique. Theory and technique are, I hasten to add, not without importance; but they do not take the place of substance.

The Modern School sketched in the present volume has been at times mistakenly called a vocational or a utilitarian school. That is, I have been supposed to be urging as a general type of secondary education the establishment of a school which would primarily train its pupils in the arts and crafts directly connected with the earning of a livelihood. Such is, however, not the case. The Modern School was conceived as a widely available and desirable, but, still distinctly a liberal, type of training. I am one of those who believe that the

current activities, opinions, and ideals of life—and "current" does not by any means exclude the past—contain the physical, intellectual, and spiritual elements, out of which an educational scheme, at once liberal and appealing, can be constructed. Hence, literature, music, and art were conceived as playing important parts in the curriculum, not less than science, industry, and modern languages; and all alike were prized, not because they possess possible money value, but partly because they embody activities worth while for their own sake, and partly because they put the child into effective relation with the world in which he lives. This is a very different thing from a vocational or utilitarian school, as these words are commonly used. Those therefore who have criticized the Modern School as practical or vocational in a narrow sense are criticizing something which this essay expressly disavows.

I am also entitled to add that, when I speak of the Modern School as a widely

available and desirable type of school training, I do not imply that it is the only available and desirable type of school training. Persons who object because they fear the exclusive domination of modern interests are therefore needlessly alarmed. The modernist in education is not intolerant. He has contended for his right to an education that answers his own needs and purposes; he concedes to those who are conscious of other needs and purposes the same liberty which he himself requires. Thus we may, as time goes on, develop more rather than fewer organized secondary school types. The Modern School may be one; Latin and Greek may characterize another; a type in which music and art are the central interests may be a third; commerce, trade, and other developing activities will furnish others. If it be true, as the modernist holds, that service is the keynote of modern social life, schools and colleges, dealing with maturing youth, should, among other things, endeavor to dis-

cover and direct to best advantage the individual's native capacity and bent. Definiteness, thoroughness, and adjustment to personal capacity and opportunity are bound to receive increasing attention, though they are not the only things that one must attend to. Under such circumstances, the traditional type of secondary school cannot occupy a predominant position—for this would be to ignore many possibilities of service and culture in order that favorable opportunities in special lines may be provided for relatively few. Those opportunities will not of course be destroyed, for culture of the traditional type, if thorough and genuine, has also its precious service to perform in this modern world. But it will not be artificially protected. In arguing, then, for the Modern School, I am very far from meaning that there is no place for anything else.

The two essays now published deal with the secondary and the college periods. There remains the graduate school which

is, unless I mistake, susceptible of similar treatment. The graduate school is primarily concerned with knowledge and the increase of knowledge, with the training of teachers, investigators, and professional workers at a high intellectual level, whether of practice or creation. At the present time the college and the graduate school are not only trying to live together—they are trying to a degree to live each other's life. Is it not a strange undertaking—this bringing inextricably together in one vast institution a college largely preoccupied with secondary work, and a graduate school largely preoccupied with college work? More questionable still, the same teachers carry boys on one shoulder, men on the other; the atmosphere of youthful sport and the thin air of thought are supposed simultaneously to envelop campus, class-room, and laboratory. Surely in practice a college concerned mainly with secondary problems is confused by the infiltration of university specialism; and just as surely the univer-

sity professor is distracted by the parental and administrative duties attached to collegiate functions. It is, I grant, a mistake to over-emphasize organization. Men are in any event more important than devices; and accordingly experience can be cited to show that great scholars and scientists can somehow learn to protect themselves against the boyishness of students and colleagues. Nevertheless, organization has its uses, and one cannot help wondering whether the particular form of organization into which we have drifted in higher education is not a handicap rather than a help. In any event, the two studies which this volume contains will, I hope, some day be completed by a paper on the subject of A Modern University.

ABRAHAM FLEXNER.

New York, May 10, 1923.

I

A MODERN COLLEGE

A MODERN COLLEGE

I

WE ARE in America fairly launched upon a movement to make high school education the indefeasible privilege of every American boy and girl; and at the moment, it looks as though a college education were about to become optional for all who have somehow contrived to acquire a specified number of high school credits. A few endowed institutions lay a certain emphasis upon quality as well; but a homogeneous undergraduate student body, well trained and of serious purpose, can hardly be said to exist in any American college to-day.

Obviously the problems of the college arise to a considerable extent out of the conditions that exist within the high

schools, and an entirely satisfactory solution will not be reached until the high schools have very greatly improved. But meanwhile, there are reasons for thinking that, irrespective of the doings of the high school, the college itself is far from wholly blameless. College opportunities have enormously increased. A well-trained student who wants to achieve can accomplish more at college to-day than ever before. But at the same time I suspect that never before has a greater aggregate of energy been aimlessly discharged. One wonders whether the area of definite purpose can perhaps be further extended without doing more harm than good.

Experimentation now under way at several institutions seeks to determine whether certain general aims of a cultural character can be compassed by the entire student body. The college student is strikingly devoid of general intellectual interest and background. The explanation is to be found in the pioneer quality of American civilization still far from

corrected by schools, which are themselves as yet inefficient instruments of culture. The general effort in question seeks to orient the college student in the fields of literature, politics, and philosophy—an effort that would perhaps hardly be necessary in a country that possessed a cultural tradition. How much the growth of a cultural tradition can thus be expedited it remains for these experiments to determine.

Aside from, but by no means inconsistent with, the general aim in question, the present paper undertakes to suggest a definite movement in the direction of specific aims. The considerations and factors involved are numerous and complex; hence, the particular development suggested, however intelligently and sympathetically carried on, may fail. But after all, education can be improved only if under proper safeguards and after careful reflection we "try things"; and, so far as I can see, no great harm is likely to result and some good may be accomplished,

if this experiment—far from entirely novel—is tried. It is easy enough to beat a retreat in case of failure or disappointment. Discussion, at any rate, will clear the air and define the issues.

The college introduces young men and women to their world. What sort of world is this modern world to which they are introduced at graduation? It is—as compared with the world to which their forbears were introduced a century or more ago—an organized world, a world, I mean, characterized among other things by definite differentiation of functions embodied in several careers or professions, each requiring its own technical and professional training and experience. More and more the smooth running of this complicated modern world is coming to depend on the intelligence and devotion with which specialized intellectual functions are discharged. They are discharged by teachers, doctors, lawyers, engineers, clergymen, journalists. If teachers, doctors, engineers, bankers,

manufacturers, and railroad managers were made as intelligent as, at the present level of human knowledge, they might be, and as devoted as, at the present level of human ethics, they should be, the world organism would not, of course, run perfectly, but it would run much better than it does.

On the other hand, though the modern world is organized, it is not completely organized. Large realms of activity and interest, civic and personal, remain more or less nebulous. Important, therefore, as is expert professional service, the whole range of human interest is not covered by service of specific professional or expert type. As time goes on, the organized area will be extended at the expense of the unorganized area; other professional or expert careers will be carved out; that part of the world's concerns which can be attended to by trained intelligence will increase; but it is not easy to believe that there is coming a time when mankind can be fully served by persons specifically

trained for definite tasks. I say, therefore, that, though life is organized as never before, though the area covered by organized knowledge and intelligence is extending, the whole of life is not now organized and probably never can be.

There is another preliminary consideration which must be kept in mind. The individual physicians, clergymen, lawyers, journalists, educators, and engineers, who render expert service to the modern world, need to be specially trained for their several tasks. Every one of them must be trained—or organized—with distinct reference to the function that he is to perform. Yet, inasmuch as all of them are citizens and persons as well as experts, though organized, no one of them is wholly organized. A man's leisure, his random tastes and interests, his civic responsibilities represent his unorganized margin. There is something in and for every one over and above the trained expert; and in no two persons is this unorganized area precisely the same. As

experts, as members of a profession, they may resemble one another more or less closely; but as persons they differ; personality and individuality add something that is subtle, fugitive, precious, and incalculable. Especially in one's leisure does this subtle and incalculable element make itself felt. Finally, as citizens, they all owe social service to the community.

What has all this to do with college education? Let us see.

II

THE American college offers, or tries to offer, academic opportunities that in amount and variety cover, extensively and intensively, the whole field of intellectual interest and opportunity. General courses sketching all the major domains of human knowledge—languages, philosophy, history, the fine arts, economics, mathematics, and the sciences—are, as far as possible, supplemented by special courses devoted to the detailed study of those portions of each general course that are of outstanding importance. From this rich abundance of material, students are, with certain exceptions, that I shall not only mention but emphasize, to a large extent free to construct their courses of study, as they proceed, with comparatively little thought of the mor-

row, when definiteness of aim may be required, or actual need will make itself felt. Subject matter is spread out in great and sometimes overwhelming abundance. Teachers are usually interested in it for its own sake. They are apt to present to their classes such aspects as interest them, rather than the aspects which may be rather more important to most students. The several departments are, moreover, as a rule, quite autonomous and not infrequently self-contained. Sometimes a group of workers in, say, history and political economy, or physics and chemistry, will undertake a joint enterprise; but such coöperation is not necessary and is none too common; nor is it likely to be arranged with a view to the ultimate objects which the student may wish to embrace on leaving college.

The frequent aimlessness of the college student is the natural result. All sorts of motives may determine the student's choices; and from the standpoint of what

happens, one reason is as good as another. A student may, if he chooses, take a subject or organize most of his course with reference to his subsequent vocational or professional intentions; but, though conditions vary in different institutions, and there is a tendency, reflected in the general examinations, efforts at educational guidance, and otherwise, toward order and away from chaos, he may still in larger or smaller measure follow his fleeting interests from year to year, be governed by the convenience or inconvenience of the time schedule, decide on the basis of ease or difficulty, compound a mixture in which traditional culture and present utility are all represented, or take the hasty advice of an instructor, who, having ascertained that he took this course last year, suggests that he take that course next. In any event, he is all too often apt to lack guiding purpose during his college career; he is apt to drift after he leaves college; and whatever career in life he comes to pursue, he is likely to discover

that he failed to take advantage in college of opportunities that he subsequently finds of inestimable importance. That is to say, the student making his way through college into a world, an important part of which is organized and as such makes definite intellectual demands, is apt during his college course to be more or less unaware of the peculiar make-up of the modern world—he is apt, on graduation, to find himself either without aim, or unready for the service which he then undertakes.

Roughly speaking, three kinds of careers are open to the college graduate: (1) he may continue to pursue subject matter as scholar, investigator, or teacher; (2) he may enter a profession—law, medicine, engineering, education, the ministry, or journalism; (3) he may follow a business career. I propose to consider what bearing the probability of one rather than another of these three kinds of careers might fairly have on college teaching.

I have already said that with certain qualifications the American college spreads its opportunities lavishly before the student. The qualifications, to which I alluded, are of two kinds: (1) the frequent requirement that before taking a given course, generally an advanced course, the student must have satisfactorily completed a preliminary or introductory or related course; (2) the requirement that the student must elect a certain group of subjects, generally two, to which he devotes his major attention, while pursuing more superficially a number of other subjects, some related, others not related, to his major subjects.

Both these requirements concern subject matter. They were designed to bring a certain degree of order and concentration into the student's course of study. Let us assume that as a result a student, especially a good student, gives more attention to at least two related studies, and that he thus attains a respectable body of information about them and training in them. He

will have acquired, for example, a pretty good knowledge of Latin and Greek, or French and Spanish, or mathematics and physics, or chemistry and biology. But the acquisition of subject matter, as such, has been his object. At times definitely, at times vaguely, his choices may be influenced by a purpose that lies beyond the college. But, with an important exception to be noted, the college does not, as a rule, systematically and deliberately seek to ascertain the purpose, if it exists; to help the student to crystallize it, if it is vague; to help him to create it, if it is nonexistent. In other words, the group system does not necessarily involve the formation of ultimate purpose. It does not necessarily look beyond itself.

Meanwhile, he is simultaneously required to dip lightly into other fields—history or literature or philosophy or science. These scrappy and superficial studies are obviously expected to contribute culture or to broaden the student's interest. I shall have occasion to touch

upon this point a little later. In this connection I wish merely to draw attention to the curious combination of concentration and dispersion, both equally mechanical in their operation. If a measured, even though fairly considerable, amount of a given subject so frequently fails to develop initiative, purpose, and mastery, what does the tethered student really win from an enforced year's incursion into two or three separate fields—from which he is, as a rule, happy to withdraw, as soon as the stipulated period comes to an end?

III

I SAID that there are three kinds of careers open to the college graduate: (1) scholarship; (2) a profession; (3) a career of commercial or industrial character. The procedure above described serves the first more satisfactorily than the others. That is, the student who wants to master Greek or history or physics, as such, because he is interested in them as subjects and wishes to become a classical scholar or historian or physicist, may be fairly well taken care of by the system now in vogue. He gets an opportunity—though, I believe, a too limited opportunity—to work in his chosen field, taken as a branch of knowledge; if he is able and competent, he may, even as an undergraduate student, get a chance to carry on a piece of minor research or to

read widely in fields contiguous to his own. Students of this kind are not numerous, but they are incontestably precious; and I should be the last one to wish to organize them out of existence. A student who really wants to perfect himself in the classical languages or in modern literature or modern science, as such, and who can concentrate himself effectively on the undertaking is a rare person, sorely needed to sweeten and to elevate American life. The present system, if only, as I shall later suggest, it were freed from the conventional outside requirements to which I have alluded above, and freed, at the same time, from its excessive reliance on school mechanism (courses, examinations, etc.)—would serve satisfactorily the small number of devotees to learning as such that our colleges now contain, or may succeed in cultivating.

On these defects in organizing, bad in general and especially bad for the capable and scholarly, I want to pause for a moment in passing. The American college

is organized in classes or years, and though during the year the classes disperse themselves over the whole catalogue, they come together respectively at the close of the year, every surviving student with his requisite quota of "hours" or "units" or "courses"—and indeed almost every student—good, bad, and indifferent—with the identical quota! Moreover, several times during the year—at the end of the month, or at the end of the semester, or, more likely, both—there are formal quizzes and examinations, duly prepared for, graded, and recorded. The college is, in other words, for all its freedom in the choice of studies, conducted like a school, through which the students are shepherded—a procedure which saves a few weaklings at the expense of all the able who are thereby enervated. This arrangement does almost everything that mere arrangement can do to make scholarship unattractive and improbable. Education cannot be made a matter of bookkeeping. There is no necessary relation

between a fixed number of hours spent and that development of initiative and power which constitute the essence of intellectual training. From the standpoint of the career we are now considering—scholarship and teaching—(and almost equally from the standpoint of other careers)—the class, course, unit, and examination organization of the American college is therefore harmful: the student, fairly free in his choice of studies, should enjoy far greater freedom and responsibility in their pursuit.

A reform at this point will enable the American college to do very well by students who mean to be scientists, scholars, or teachers. But the college will still do less than it might for the far more numerous others who, not deeply interested in a subject, can be efficiently motivated, if at all, only by a career. These persons—the large majority of our present student body, many of them extremely able, some of them earnest, and more of them capable of becoming earnest—the college now

leaves at sea. Its requirements, as indicated above, do not help, for they are not based on motive. And not only do these students lack direction in college, but they are preparing themselves for avoidable defect and disappointment a bit later. That is, if the student ultimately enters a profession, law or journalism, for example, business, or even teaching, he may well find that he failed to coördinate his college studies with some regard to his now urgent needs. He will, in all probability, have touched on certain branches, which prove to bear on the main preoccupation of his mature life; but, unless he has had medicine as a career in view—this is the exception which I had in mind—his college experience may have failed to help him to formulate a purpose, or it may have failed to take timely note of a purpose formed or in process of formation. And this is a very serious matter, for many college graduates follow another career than pure scholarship—follow, I mean, organized careers for which not

only professional, but pre-professional training is requisite.

I said a moment ago that medicine is an exception. Of all the professions developed under modern conditions, medicine has perhaps attained the most definite educational organization. Modern medicine has a point of view; it has evolved a technique by means of which it is rapidly acquiring and setting in scientific order a substantial and rapidly increasing body of skill and knowledge. We know pretty well what medical training is and what it aims at; and from these aims we have worked back, constructing a course of training which should logically precede work in the medical school. The colleges and medical schools have got together on this point. They have agreed that if a youth wants to begin the study of medicine at the age of twenty-one—as he certainly should, unless he can begin it a year or two earlier—he must make up his mind about it two or three years beforehand—for which something can surely be

said alike on moral, educational, and professional grounds. On moral grounds, because forehanded decision tends to add a dash of seriousness to the education of our none-too-serious boys and girls; on educational grounds, because studies are better coördinated and more intently pursued if it is known that they lead somewhere; on professional grounds, because modern medicine can no longer be taught merely in the medical school. The medical school has to presuppose knowledge, training, and aptitude. The aptitude must be ascertained in the college, if not previously; the knowledge and training upon which modern medicine reposes must be brought to the medical school, for the medical school curriculum, overloaded with medical subjects and in serious need of reorganization, simplification, and perhaps lengthening, cannot possibly offer training in any of the instruments—linguistic or scientific—which the student must be prepared to use at the very outset of his medical studies.

For these reasons the best university medical schools admit only students who have been trained in physics, chemistry, and biology, and who have a reading knowledge of French and German. Under pressure of this objective, the colleges have framed a preliminary medical course, the backbone of which is formed by the studies in question. It is a coherent, severe, and absorbing discipline in science and modern languages, occupying as a rule the first two years of the college course. All the elements that it contains were already there; any far-sighted and intelligent student might have put them together for himself. But not many students would have been intelligent and far-sighted enough to do so; accordingly the medical schools and the colleges do it for them. It cannot be claimed that, in general, the instruction in either science or modern languages is thoroughly satisfactory; but it is immensely better than it was a few years ago, and every year it is a little more feasible for a medical school to

turn the screw a bit tighter. Thus a sensible and practicable method of selecting students qualified by bent and talents to study medicine is introduced at the right moment; and those thus selected are trained betimes.

In making this requirement university medical schools have not attempted to limit the details of the student's scientific work to the supposed needs of medical education. They have not mapped out a course in which the student must be mechanically drilled; they have not assembled a list of experiments which he must have performed; they have not insisted on his having at his tongue's end any particular set of facts. The requirement has been conceived in liberal, not in illiberal, form. The medical teachers hold that the student of medicine should have acquired scientific interest, training, and point of view. Competent teachers, treating these subjects in a comprehensive and philosophic fashion, do not have to be told the importance of accurate knowledge and

clean-cut conceptions. The medical schools do not minimize clearness and accuracy; but they know that instruction is all too easily mechanized and the free spirit all too easily chilled by a highly particularized requirement. And as not only scientific knowledge, but scientific culture and scientific interest, are requisite, the schools do well to define their needs in liberal terms.

On the other hand, the prospective student of medicine is not while in college entirely absorbed in his pre-medical studies. A limited requirement of dubious value is, as is our way, made in other fields; and the student has a chance to browse further. It would be interesting to inquire just what use he makes of his browsing privileges—whether to browse in other fields, because his professional studies do not completely satisfy or absorb him, or to get more chemistry, more physics, or more biology. It is, for our purpose, important to note that, though this close coördination of college and

medical school is, except at the Johns Hopkins, a relatively recent development, it has proved amazingly easy to get our college boys and girls to come to a timely decision and thus to shape their college courses with explicit reference to the demands of the medical school. Students who ten years ago might have ambled aimlessly through college only to find that, having after graduation decided to study medicine, they had made no proper preparation for it, now make up their minds in advance, and do better work accordingly. That is, a three-cornered gain—moral, educational, and professional—has been realized, and by such numbers that already the medical schools lack room for all the qualified students who apply for admission. And it is interesting to note, further, that many colleges are so well satisfied that their fundamental purposes are accomplished by students taking the preliminary medical course at least as well as by students who are guided by no such purpose that they confer a bachelor's de-

gree upon these students at the end of four years, i.e., when they are halfway through the medical school, precisely as they confer the degree upon students who have for four years pursued a less highly organized course with a less definite object, or with no object at all.

IV

THE reader may now perceive the drift of the argument. The world is more highly organized than ever before; for the special expert service that it requires, training can of course be had only in professional schools; but professional competency begins back of the professional school. The college graduate of two and twenty, arrived at the threshold of professional school or practical life, cannot then begin to lay the specific foundation which professional training requires. He is too old to begin once more on underpinning; his capacity for that sort of study is no longer at its maximum; he is naturally and properly impatient to start his life's work. The college should have anticipated some of the definite needs that the coming years will certainly disclose.

If, then, the American college suffers from a considerable degree of aimlessness, does not the history of the preliminary medical course contain a suggestion that might be carried a little further? Certainly on its face there is no reason why of all possible definite careers medicine alone should exert retroactive pressure on the student to be thoughtful, and on the college to be efficient. And if such retroactive pressure on the part of the medical school does not, or does not necessarily, defeat other legitimate college aims—social and cultural (I shall recur to this point)—it is not at first blush apparent why similar pressure by other careers would be objectionable. If purposeful organization of college work with reference to a career in medicine is a good thing, is it not possible that purposeful organization of college work with reference, say, to engineering, to law, to teaching, to the ministry, to business, would be a good thing, too?

It is fairly obvious that the same case

can be made out for engineering that has been made out for medicine. Nor should argument be nowadays needed to prove that, though sound and adequate scholarship is always his prime need, the prospective teacher of language, history, or science would do well to master betimes the modern technique of the teaching profession; for it is one thing to know a subject and something more to teach it. In the very process of acquiring mastery of his subject in college, the future instructor should be studying educational problems, experience, and technique.

As to other professions, the answer turns upon several considerations. Does law in itself involve a training as technical and as definite as does medicine? The history of the modern law school would seem to give an affirmative reply. The lawyer was once made by apprenticeship, just as the doctor of the same day was made; but schools were soon created—schools conducted by practising lawyers in odds and ends of time for the benefit of students

who simultaneously often did other things —very much as medical schools were in that day carried on. The process was not satisfactory in law any more than it was in medicine. Accordingly, the last generation evolved the modern university law school with its organized curriculum, its paraphernalia of textbooks and methods, and even in a few places its full-time teaching staff.

The lawyer thus shaped serves several functions. In the first place, he represents and advocates the interest of his client in conference or in court. Perhaps this, the most prominent aspect of his career, is on a long view the least important, for as legislator and judge—all judges and most of the members of Congress are lawyers—he is not only lawmaker, but also the main agent in so interpreting laws as to facilitate the orderly and progressive development of society; and the interpretation of laws is, in effect, a legislative, not merely a judicial, act. A law, be it ever so cleverly and

luminously worded, does not mean the same thing for ever. Constitutions and statutes alike must be interpreted; and wise judges can and must interpret them into a meaning consistent with dominating social purpose. Whether social evolution shall be at once sound and orderly depends thus in large measure on lawyers —not only on their technical training, but on their breadth and flexibility of intelligence.

In his most responsible and far-reaching function the lawyer is therefore a social physician, not a business man's instrument. It would seem feasible to formulate those aspects of social development —ethical, economic, international—with which the lawyer, far more than other professionally trained agents, deals. Is it not possible that tension would be reduced and social evolution achieved with less friction, if our lawyers and judges were not only learned in precedents, but were thoroughly versed in history, ethics, economics, and political science? This

would doubtless involve a revision of the aims of legal training with a corresponding revision of the law-school curriculum, for legal training would then consciously aim at producing something different in certain respects from the practising lawyer. The legal curriculum itself is something to be determined by those who take a broad view of the situation; the college course best calculated to prepare for it would have to be arrived at tentatively and experimentally by college teachers and law teachers in coöperation. If this suggestion finds favor with those who know perhaps an experiment, requiring candidates for admission to possess a bachelor's degree based on a competent knowledge of economics and history, freely pursued, might be as good for both college students and law students—not to mention the legal profession and the people at large—as was the specific requirement in science set up by the Johns Hopkins Medical School a generation ago.

Could a case also be made out for sim-

ilar training of those entering theological schools and seminaries? The minister expounds a religious attitude or faith; he is a social agent of importance; he might, if properly trained, exercise even greater influence than he usually does. To him, among others, a congregation, not to say the community, looks for counsel in dealing with pressing social and industrial problems; he should be a formative influence in adapting to present and coming conditions the standards of business and professional conduct; he is the counsellor of individuals distraught by the clash of warring principles of conduct; his opinions on hygiene and education carry far into the very heart of family life. He ought to be scholar enough to keep in touch with the movement of thought in other countries developing more or less as is our own; he ought to know enough of modern science to appreciate its bearing on theological and philosophic thought; he ought to have a clear conception of social and industrial organization and evolution. A

college curriculum that contained biology and geology, philosophy and political economy, would be a rich and purposeful introduction to the technical training of the theological seminary. An eminent New Testament Greek scholar holds that for the minister science is more important than Hebrew or Greek, and history more valuable than metaphysics. Would our preachers be likely to be men of larger vision and greater influence if they had spent three or four years in the pursuit of such studies? Would their social efforts and their philosophical discussions be likely to be more effective than they now are?

Business and journalism are usually careers upon which the college graduate at once enters, rather than professions for which he seeks higher training. In reference to these I raise the question whether the college could not, after careful analysis of the situation, offer a group of studies adapted to the future needs of the prospective business man or journal-

ist. Business is obviously less specific than medicine, perhaps less specific than law. But it has at any rate a sufficiently definite social background and a sufficiently definite general character. I am not unmindful of the fact that broad culture may often turn out to be the best possible training for the incalculable demands of business life; and I should hope that an organized plan of instruction would still leave a margin large enough to tell, if industriously utilized for simply cultural or appreciative purposes. But modern business is infinitely complex, both externally and internally. Industry has its peculiar problems in respect to production, material as well as human, and in respect to consumption, national and international; all modern business has a general background—social, economic, and scientific—and it is in reference to this general background, common to all modern commercial and industrial activities, not in reference to the specific problems or jobs of shoe manufacturing,

banking, brokerage, transportation, or mining, that a student's college education might perhaps profitably be organized. Let us suppose that those who are now responsible for policies pursued in the financing of large enterprises, in the development of international trade, and in the handling of labor problems, had risen to their present posts from the basis provided by good college training in the theory of finance and the history of labor organizations and legislation in Great Britain, Germany, France, the United States, and other countries—is it not possible that larger views would prevail, that the relation of foreign and domestic trade would be more clearly apprehended, and that the age-long contention between capital and labor might be approached on both sides in a spirit at once more humane and more intelligent? The colleges already offer the courses out of which such a discipline might be created; but they do little to organize it and to press its advantages upon the student. Would

anything be lost, might something be gained, if instead of leaving the student to pursue such studies if he so chooses, the college were to set up a course of training in which they are incorporated and coördinated? The subjects are there; they are presumably good for college students. If a student actually coördinated them, he would probably be praised as knowing what he is after. Would it help or hurt if those who know coördinated them with a view to considerations, of which the student himself cannot yet be fully aware? Surely it cannot be maintained, that, whereas definite articulation of courses now offered would be wholesome, if somehow achieved by the student for himself, the same grouping, officially suggested, would be discordant with the spirit or intent of academic life.

Neither the undergraduate school of commerce nor the graduate school of business is the equivalent of what I have in mind, for both are technical and vocational. I am thinking rather of training

in economics, history, and modern languages in order that the business leaders of the next generation may not labor under the same handicaps as do their fathers in consequence of ignorance of history, geography and economics, a narrow social outlook and inability to speak other languages than their own. Vocational schools of commerce will continue to do their work; and graduate work, theoretic and applied, might even be of more searching character, for it could presuppose sound fundamental training instead of the occasional training, which under the present system is all the undergraduate student usually obtains. It cannot be argued that the undergraduate is incapable of taking the proposed training; for the courses are already there, open to him, and in such variety that, as far as subject matter is concerned, they overlap the graduate school courses.

As I write, an interesting illustration of these facts is furnished by the organization of an undergraduate School of Busi-

ness Economics at the Johns Hopkins University. It intends to afford "academic preparation for business" through an "understanding of our elaborate economic machinery." The school will not train "business technicians, such as accountants." It will, on the contrary, organize in a fashion, at once liberal and purposeful, opportunities for the study of mathematics, modern languages, finance, statistics, industrial management, and industrial relations. The Johns Hopkins University already offered many of these courses; and a fortunate student, knowing what he wanted, might have put them together for himself; but this did not happen. Now the authorities have themselves done it. They have abstracted certain broad studies from the pages of the catalogue and bracketed them definitely, so that as an organized entity they may attract the student's attention. The course is not, as proposed, free from the objections which I have already urged against the college curriculum—for it is

minutely composed of hours, and units, and examinations, and all the other technicalities and formalities that take the life out of college work; and it is still further handicapped, because the student, who, pursuing these same courses of his own choice formerly, would have received a B. A. degree, will, now that they constitute a "School", receive only a new and therefore academically inferior degree. But the step taken at Johns Hopkins illustrates the possibility of recognizing purpose without sacrifice of liberal spirit. It illustrates also another thing. In order to effect the integration of studies with reference to an objective purpose, a separate "School" had to be created. It is not really a separate school; the "School" exists only on paper. The fiction is employed in order to obtain greater freedom. That is, the American college does not take kindly to a definitely avowed, specific, objective purpose. The college will allow the student unassisted to aim at an objective, but it does not like to acknowledge

the fact and deliberately help him. A concrete proposition like training in business economics is forced outside the strictly academic pale; and the college curriculum, instead of becoming progressively more purposeful, becomes progressively poorer in definite purposes.

The suggestion that business be viewed as seriously as a profession and that universities accordingly undertake to provide for it an appropriate intellectual underpinning thus runs counter to academic tradition and preference. The academic mind still at times balks at anything in which it suspects what it calls a "materialistic" aspect. But business will live down the prejudice, or—what amounts to the same thing—the academic mind will ultimately accommodate itself to the fact. Time was when the physician being an apothecary and the surgeon being a barber, the universities were equally—and justly—contemptuous of the healing art. But the academic attitude changed as medicine became a profession with scien-

tific basis and cultural possibilities. Modern business is undergoing a not dissimilar transformation. Trade has begun to involve both the social and the physical sciences. Our state universities in the West and endowed colleges influenced by them have indeed already in some measure responded to this development; they have even gone so far as to become distinctly practical. But I am urging not that practical training displace academic training—the college is distinctly not meant for that—but rather that academic training be so organized as to realize the intellectual and cultural values of the practical or professional discipline or activity which will come next. Of those who object even to this, one may fairly inquire to what ends colleges offer courses in economics, history, or ethics. Are they designed only for investigators and teachers? If so, the numbers pursuing them will be small, though highly important. Are they, in addition, designed to give a fringe of learning to students mainly in-

terested in other academic subjects? If so, the students in question will give them only incidental attention. Are they there to be pursued earnestly by the large numbers, who, destined for business or public life, may in college perhaps be made aware of the fact that under modern conditions business is—whatever else it is—a social service? If so, what is lost by a step that places business on a par with law and medicine as an important social activity, to the prosecution of which belong serious intellectual interests?

The process of organization above described involves a curious reversion. The first college in the United States was a school of serious and definite purpose. It was meant to give prospective ministers of the gospel the training which they needed. So the founders of Harvard College stated their purpose—that the colonists might not have an illiterate ministry. For generations the college gave the liberal training needed first by ministers, then by lawyers—the two bookish

professions. In the nineteenth century, following general prosperity and the spread of intelligence, others than prospective lawyers and ministers went to college in large numbers. Simultaneously, there was a rapid and enormous development of organized knowledge in every field; and the search for new knowledge became one of the passions of civilized man. The college admitted the increasing numbers; it enlarged its scope; it became the focus of investigation and research. The training that once sufficed for lawyers and clergymen was no longer the best even for them; for the others it was inadequate, perhaps inappropriate. The elective system, which recognized the equal dignity of all branches of learning, the equal validity of all wholesome intellectual aims, was the result. Our college students—numerous beyond all expectation, largely ill-trained and immature—cannot, even if they would, spontaneously find their way to best advantage in this rich tangle; moreover,

other influences, tending to prolong the period of immaturity, help to divest college life of seriousness. So it happens that, just at the time when the elaborateness and complexity of professional and business life make it important that students economize time and make ready, while they may, for definite careers—just at this time they receive least help toward formulating their several purposes, least help toward directing their studies with reference to these purposes, and most opportunity to be dilettanti.

V

I HAVE thus far grounded my thesis on an analysis of professional training; but it is supported by additional considerations, not without considerable weight, which I have already incidentally mentioned. We have for some years been engaged in elongating our educational organization without careful consideration of the cost in time, not to say money. American boys used more or less commonly to go to college at sixteen or seventeen. The high school, once called the people's college, has been slipped in, so that the time devoted to high school and college is often twice what it was. In consequence, the American scheme now contemplates a general education covering sixteen years—something that cannot be duplicated in any European country.

Some of the reasons are plain, and, to a certain extent, cogent, for secondary education in America has its own scale, its own scope, its own objects—all different from continental spirit and practice. It is nevertheless a question whether our effort as now organized is either as sound or as efficient as it can be and must be made. An American boy, who pursues the beaten path, enters school at six and completes his general college course at twenty-two. A certain number—no one knows how many—make a saving somewhere in the elementary or high school and thus escape a bit younger; a considerable number are retarded and are thus held somewhat longer; in any case, the system defers the professional education of college-bred men until the twenty-third year.

It is too late. The economic burden is so heavy that, as a rule, only the sons of the prosperous can enjoy first-rate professional training—a deplorable situation, especially in a democracy. Again, no

matter how well borne up to eighteen, school and college routine—enforced attendance on lessons, exercises, examinations—becomes more and more irksome after that age. Social and psychological considerations—and they, rather than the schoolmaster's preference, must really control—suggest an earlier terminus to the formal schooling process than is effected under our existing organization. The requisite saving can be made in several ways: part of it, by taking up the slack in elementary and secondary education, as we should, for example, if a quicker pace were established as the rule and a slower pace set for the weaker, instead of vice versa; part of it, by the abolition of overlapping, the high school ceasing to attempt college work, the college ceasing to offer elementary courses; and, finally, part of it, by the deliberate decision that, whatever else the college student may do, he should, if minded to pursue a profession, lay in college the foundation upon which his professional

training should be built. His professional training will thus become more scholarly; he will have been treated like a man two or three years earlier than he now is.

VI

I DID not start out to ascertain the purpose of college education; yet, if the argument has force, we have been considering either what, in the case of most students, the college is for, or, now that we have it, the kind of uses to which it may be put. But there is another problem, separate, though not disconnected, which must at least be noticed in this connection. I have thus far been seeking a way to introduce purpose more widely into the upper reaches of secondary education. It is, however, equally imperative to secure higher standards of performance. To be frank, greater earnestness within the college as it now stands would alone work an enormous improvement. But it would not entirely dispense with the need of a more purposeful em-

ployment of time and energy; for, in the present situation, it is not only the idler who drifts—the serious often drift, too—not infrequently into unhappiness and idleness. The introduction of definite purpose would tend to save the potentially serious; and it would in a measure at least provoke greater effort on the part of others. But I am far from thinking that it would solve the whole problem. Some technique, in the form of opportunity, association, or distinction, has still to be worked out for the differentiation of the able and industrious from the dullard or the laggard. The college period is ideally adapted to this task—a sort of no man's land, lying between unmistakable boyhood, where the schoolmaster rules, and unmistakable manhood, where complete responsibility devolves upon the individual.

The English universities have devised a relatively simple solution: they permit a voluntary division of the student body into passmen and honors students. The

former follow a prescribed routine; and not much is demanded of them. The latter define their purpose, and under light and easy guidance, are permitted to work out their own salvation. A somewhat similar arrangement has been contrived at the University of Toronto; latterly, Swarthmore College, under the presidency of one of the earliest of the Rhodes Oxford Scholars, has been experimentally engaged in adapting the English honors system to an American college. The "cum laude" distinctions hitherto in vogue have left both the student body and the American public quite cold; for they have meant little more than that a particular student has done well the same things that some other student has done less well—and under the same conditions.

The problem of obtaining quality in a larger portion of our collegiate output has been rendered the more urgent by the unprecedented quantitative expansion in the field of secondary and collegiate education during the last twenty years.

Students have multiplied enormously in numbers. Buildings have increased in size and elaborateness, and funds previously undreamed of have been procured for endowment and upkeep. By no human possibility could there have been a simultaneous and equal development on the qualitative side, for teachers could not have been trained in advance, and aims and ideals have to be worked out of the existing social situation. The mere fact that college education is, therefore, except for earnest and industrious students who shift for themselves, so often superficial and aimless, leaving huge numbers of college graduates untrained, immature, and—in a serious sense—uneducated, is not under the circumstances itself so disquieting. Disquiet arises rather from disinclination to face, avow, and experiment with the facts. It is inevitable that we should on the spur of the moment be doing less well with masses than England, France, Germany, or Scandinavia does with small selected groups

after many years of experience. We need no more worry about that fact in itself than pioneers worry about the absence of roads in a new country; but we may well be disturbed if we find that the lack of high scholarly attainment is rarely deplored, that serious intellectual effort is insufficiently honored and that altogether too frequently some other incidental good—character, service, good fellowship, or whatnot—is accepted, if not commended, as a substitute or even an improvement.

The reorganization of the curriculum on the basis of objective aims would admirably harmonize with the introduction of honor distinctions involving a new type of responsibility, initiative, and standard of performance on the part of the student. It is the very essence of the honors course that intensive, protracted, and fairly independent work be done by a student, freed from small and disconnected required courses, quizzes, reports, term examinations, etc. It is assumed

that purpose will suggest his studies, maintain his interest, and secure high quality of achievement. The requisite guidance can be easily furnished and a severe examination at the end of a prolonged period of study thus carried on will test the soundness of the result. The problem of purpose, to which this paper has been mainly devoted, and the problem of quality, which represents the second urgent need in the field of college education, can therefore be advantageously attacked together.

VII

WHAT sort of institution would a college be if it were reorganized on the basis of purpose and seriousness? It would, I suspect, be a simpler institution than it now is. The organization of the curriculum with reference to ends would inevitably emphasize sound general training in the different subjects as against the premature and excessive specialization now in vogue. The teaching function of the college professor would be admitted more candidly than it now is. The college would thus tend to draw away from the graduate school—to the advantage of both institutions; for the present arrangement endangers two good things: it tempts a man who might be a good college teacher of immature and untrained boys and girls to cast his instruc-

tion in an unsuitable mould; and it distracts a university professor who ought to have freedom and tranquillity with a killing burden of administrative, parental, and instructional routine.

The student body, more or less completely organized on the basis of purpose, might easily show increased earnestness. There would, as I insisted at the outset, continue to be students, interested primarily in subject matter, seeking to know the history of man, to master the languages which he speaks or has spoken, or to explore the laws of the phenomenal world —students, whose studies might well be characterized by even more intense concentration than is now common. There would also be that preliminary medical group, looking in the choice and organization of their studies beyond the subject matter itself to a definite professional training which has reacted on and determined their college curriculum; and there would be similar groups of students pursuing just as definite courses in equally

conscious reference to law, journalism, the pulpit, engineering, and business. There would remain a fairly aimless group of uncertain size. Stiffer high school work and more genuine standards of college admission—if only they could be brought about!—would winnow them somewhat; a starchier scholarship requirement, less athletics and less club life in college would tend to refer some of these worthies to other places of amusement. But there would still be enough of them to constitute a problem. For a while they might be permitted to do just as they now do—that is, until experience decides whether the suggested experiment in organization is really worth while. Then—if not earlier—as an alternative to definite specialization, the college might offer two general, articulated courses, one humanistic, the other scientific and humanistic, between which the nondescripts must make a choice. A little violence would be less damaging than aimlessness; a definite, coherent, and exacting effort

would do them less harm—perhaps more good—than the rather aimless procedure which is now the alternative. The scholar whom I have already quoted writes me: "As one who took five years after college to discover his specialty, I sympathize with the undecided, but I am quite favorable to making them justify their indecision, or atone for it, by extra diligence and success."

And, finally, I should hope that socially the members of all groups might freely mingle, just as students now do. Nothing can be more wholesome than the free-and-easy contacts of the American college; nothing more stimulating than the clash of viewpoints and objects which thus results. On the whole, the college is a democratic institution; and it would be a pity to anticipate any of the separateness that inevitably comes with practical life.

The experiment I am discussing is really less of an innovation than appears. Particularly in the Middle West certain institutions have taken steps in this di-

rection. Is it not indeed the logical outcome of the considerations which brought about the flexible college curriculum? The college was enriched and diversified to keep pace with the enrichment and diversification of modern intellectual and social life. Individual capacity and preference had to be heeded, in order to utilize the abundance of opportunity thus provided. Experience showed, however, that many students lost themselves in the tropical wilderness; their capacities, even if developed, did not and could not instinctively appropriate and coördinate the most suitable courses of study; not infrequently there were no definite instincts or needs to guide them. The elective system was introduced that the student might be free. But in what sense is he free, when, ignorant and confused, his choice alights on this subject rather than that? The elective system, meant as a wide-open opportunity to permit the student to organize his work, needs to be organized for him. He will still retain

freedom of election; he may elect subject matter in any field or he may elect a definite professional career; but if in the latter event his election falls upon one of the now recognized professional careers, the college will have prepared for him, as it has prepared for the pre-medical student, a definite combination of studies calculated to serve his ultimate object.

VIII

NO TWO countries have precisely the same educational problems to solve, because no two countries have the same historical background and the same social and political situation to deal with. On the other hand, there are certainly enough common or similar factors to make it worth while to seek suggestions and stimulus outside our own little and recent world. Boys are boys; minds are minds; scholarship is scholarship; professions are professions—alike in America, in Great Britain, and on the continent. Curiously enough, though communication is easier and Europeans and Asiatics are coming to America to study in increasing numbers, Americans, finding better opportunities at home than previously, are less and less apt to study for considerable periods

abroad. From 1870 to 1900, we were enormously helped by a large and able group who took the time and the trouble to learn what Europe had to teach us in education. Perhaps they over-taught us in some ways; but the good tremendously overweighed the bad, if bad there was. I venture to think that, quite aside from the broadening influence of prolonged exposure to other ideas, Europe still has something to tell us regarding the way in which minds may be selected and trained for intellectual pursuits.

It is at any rate, from the standpoint of the subject of this paper, interesting to observe that continental nations, facing, as we face, the need of training differently endowed minds for a variety of specific activities in mature life, all organize secondary education, especially in its upper phases, on the basis of definite types of activity. The French, for example, offer the student in the years equivalent to the American high school and the first two years at college, a choice among four

cycles, ranging in content from the conventional classical course to a modern course, from which both ancient languages are omitted. The English schools offer three types—the classical, modern, and engineering sides. The Germans have developed three secondary schools of equal grade—the classical gymnasium, the real gymnasium, and the Oberrealschule. Similar developments have taken place in Switzerland, Holland, Denmark and Sweden.

The object is in all instances the same, viz., to give youth a chance to devote the secondary period to a type of education adapted to individual inclination and capacity and connected logically with the general kind of career or activity into which the individual student will gravitate. Inclination and capacity determine the choice among the types offered; but the type itself is organized by the school authorities. The suggestion which I have made involves a larger number of types —though, at most, not a very large num-

ber; and each type would give the student a genuine opportunity to master the small number of subjects for which he cares or which logically lead into the field of activity which he has selected.

IX

MY PROPOSITION should not be interpreted as an attempt to convert the college into a vocational school. I have already taken pains to say that this is not my purpose; and I do not believe that it will happen. I am proposing only a liberal and modern intellectual treatment of the careers which college boys and girls ultimately choose. They are going —many of them, perhaps most of them— to become doctors, lawyers, or business men. Important intellectual interests belong to these careers. Shall those who follow them realize these intellectual values? A broad-minded humanist, Professor Ernest D. Burton of the University of Chicago, has latterly interested himself in what he happily calls "the resolution of the old antithesis between bread and

butter education and education of the cultural type." "May not our colleges and universities," he asks, "at least become increasingly institutions in which we shall make neither good scholars who are good for nothing, nor tradesmen without vision, but men and women who in the process of fitting themselves for a useful occupation have also gained a breadth of vision and sympathy, insight and outlook, culture and philosophy?"

Whether they be one or the other will surely depend in many instances on the uses to which their college years are put. The college should not undertake to make doctors, lawyers, or business men; it is not a place for practical or vocational training; it is an intellectual forum. But it need not be aimless in order to be liberal. Indeed it does not mean to be aimless now. Its group or other arrangements are designed to bring about concentration or coördination; they are so often ineffective in securing a high degree of earnestness, because they are so often arbitrary, be-

cause they so often lack a *terminus ad quem.* One asks inevitably whether that can be secured for others which has already been secured for the medical student. Surely, if the pre-medical student is not necessarily a barbarian, the pre-law, the pre-business, the pre-journalist student need not be a barbarian, either. It is for the college teachers to see to that. They are not lawyers, business men, or journalists, any more than they are doctors. They are economists, philosophers, historians, mathematicians, just as the teachers of the pre-medical students are biologists, chemists, and physicists. If the college is not impregnated with a liberal spirit, there must be some unsuspected antagonism between purpose and culture outside the medical domain.

X

SO FAR I have been considering how the college can be organized to meet the needs of those who will enter one of the organized careers which are more and more important to the smooth working of the modern world. But I have already emphasized the fact that men are not totally absorbed by their professional or expert activities. They are citizens; they are persons with predilections and capacities infinitely worth while, that may have perhaps little to do with their ways of earning a livelihood or discharging their respective social functions. Every individual has an appreciative as well as a functional life—the two, of course, overlapping. The scientist has possibilities of enjoyment in literature and art; the

poet or historian, in the gratification of scientific or philosophic curiosity. Toward these civic obligations and toward the appreciative possibilities which extend into the vague, what is to be the attitude of our modernized college?

In so far as training for citizenship or training in character is concerned, the present disorganized college surely makes little or no specific instructional effort toward either. I find it difficult to conceive of college courses aiming in cold blood to train students to be good citizens. The college contribution in this field can undoubtedly be large, but it must be indirect, and if so, has no bearing on the question which this paper discusses. By the high tone of their social life, by the domination of moral earnestness, schools at every stage can do much to hold students to a high level of conduct as individuals and as citizens; but in this matter the relatively unorganized institution that we now possess has no advantage over the more highly organized institution

that this paper suggests. The contrary might even be urged with a good deal of force and plausibility; for seriousness and definiteness of intellectual interest and purpose are surely more bracing and elevating than indifference and aimlessness.

The point is one upon which I have already touched, but it is of such vital importance that I venture to elaborate it a little further. The college is not only a place where a common life is inspired by certain ethical and spiritual aims and attitudes—comradeship, unselfishness, and sportsmanship in the better sense of the term. It is a school where great expense is incurred and much effort is expended, in order that students may master studies—English, Latin, mathematics, physics, biology—and may learn to use, and to enjoy using, their minds. I venture to think that official utterances in these days, as a rule, lay too much stress upon character, service, and leadership, as things apart from scholarship and from intellec-

tual effort. It is of undeniable and overwhelming importance that American boys and girls should be honorable, high-minded, courageous, comradely. Meanwhile, let us cease to suppose that these qualities are a substitute for, or in any wise inconsistent with, intellectual interests and intellectual training. No gain on the side of what we commonly call "social values" can take the place of the ability to write English well, of the ability to think clearly, of an accurate knowledge of mathematics, Latin, science, or any other subject that has been pursued in the high school or college.

As to culture, let me explain one or two points before answering. Those who in theory attach the greatest importance to culture demand in actual practice technical competency. When they need an engineer or a doctor, they want the best engineer or the best doctor obtainable. They do not prefer a second-rate technician, simply because he may be otherwise the more highly accomplished.

It is difficult to see how we can refuse to accept the educational implications of this fact. Expert competency is of primary importance, and expert competency begins far back of the professional school—certainly in the college, perhaps in some branches, even earlier; the prolonged training required must begin in youth, unless the most serious part of a man's schooling is to be postponed to the years when organized study grows increasingly irksome and the economic burden too heavy to bear. These demands do not represent the only social need any more than the individual's professional service represents his total personality; but they must be heeded.

Fortunately, culture and purpose are not really the separate antagonistic entities that they are, in educational discussion, so often assumed to be. "It has long been a favorite theory of mine," says Professor Burton, "that agriculture could be made one of the most cultural in the whole range of studies, and an

agricultural school a centre of a very high type of culture. . . . But if this is true of agriculture, is it not also true of many other occupations? We must have farmers and engineers and bankers and merchants and lawyers and physicians. Can they not all be trained with such a sense of the relation of their occupation to the great forces of nature and of history and the great problems of society, and even with such a perception of æsthetic values, that in fitting them for their trade we shall also make them men of broad vision and wide culture and sound social philosophy?"

As a matter of fact, a given subject, which, chosen freely, would be conceded to possess cultural value, does not take on a non-cultural complexion simply because it is pursued in more or less conscious reference to a concrete end. That is a question of breadth of spirit rather than definiteness of purpose. There are of course those who strive to be literally competent because it pays; others, how-

ever, find the artist's satisfaction in workmanlike performance in whatever realm. Science, scholarship, poetry, music—each may be broad, elevating, spiritual, each may be narrow and self-seeking. The scientist may be "cultivated"; the musician or artist may be crude. Culture is indeed no longer a simple conception, such as it was when a century ago it stood for the things—mainly literary—that it behooved a gentleman to know. There are nowadays many types of cultivation; there is no way of arranging them serially on the basis of a relative importance; in a world in which all are essential, nothing is to be gained from the attempt.

So much for the latent cultural possibilities of pre-professional and professional work. How stands it with those interests that lie entirely outside?

We may be assisted if, leaving the American college for the moment, we look abroad. The European intellectual is well trained in his profession; he is usually a cultivated man besides. Yet the gen-

eral education of the French, German, Scandinavian, and usually the English boy comes to an end when, somewhere between eighteen and twenty, he leaves the secondary school to enter the university. In the university a number of serious men devote themselves to mastering subjects—these are the disinterested scholars, scientists or men of leisure, more numerous and more highly esteemed in Europe than in America. I have again and again insisted that my suggestion does not propose to interfere with them—rather the reverse, for I want them to have larger freedom in college than they now enjoy. Aside from this group, there is in the foreign universities—in England segregated as pass-men, on the continent, quietly ignored—a body of easy-going students who do less educational harm there than they do in the American college because the authorities are little interested in them. Finally, come the majority, for whom the university is explicitly a pre-professional and professional school. A

student belonging to this large and important group is still free, precisely as he would be left free in the college we have described, to pursue in his leisure any courses that interest him. If in training for a scientific career he can, if he so chooses, attend a course in Gothic art; if in training for a career as linguist he may, if he chooses, attend courses in philosophy or science. But there is no requirement; it is, on the contrary, assumed that his main energies will be concentrated on his professional object. His general and deliberate cultural education, as far as schools assume responsibility for it, is over. Yet the European intellectual is a cultivated man in precisely the sense in which we are using the word. He knows the literary classics of his own and other tongues; he is familiar with architecture and painting and he has a philosophy of life. He speaks his native tongue with distinction; he writes with ease and force. Some of this he owes to the hard training of the gymnasium or the lycée, but even

more to the environment in which he has lived, to the traditions that are preserved in his home, to the casual contacts of school and university life. An eminent English physiologist, who happens also to be a lover of poetry, a connoisseur in art and something of an antiquary besides, a man of broad and varied culture, used at college to dine and smoke with historians and linguists—he, talking modern chemistry to them, they, their favourite poets or novelists to him. In the rich, cultural environment of the Old World one realizes that culture is only partly school-made, and that therefore the excessive prolongation of schooling in the hope of generally attaining it is apt to be a more or less futile procedure.

Surely our own experience up to this time makes this clear. Our so-called general or cultural education is prolonged beyond the term that prevails anywhere in Europe. Yet its product remains in general culturally inferior to the continental type. Several factors are respon-

sible. The schools are themselves on the whole inferior. Again, the cultural environment is so unexacting that children too rarely maintain the level won with difficulty by their parents; but the point I desire to make still stands out, viz., that the problem has not been entirely solved and cannot be entirely solved either by prolonging school life or leaving everything to the school and college teacher. Schools, important as they are, are not by any means the sole factor in culture or education; they attempt the impossible if they incur the entire, or even an excessive, responsibility.

Our question thus in a measure answers itself. Social and professional considerations set a time limit upon the schools in any case; what they can deliberately set themselves to do in the development of taste they must more largely achieve in the earlier years. The elementary school and the secondary school enjoy great freedom in the use of time; they also get hold of boys and girls in the most favorable

years. But their task is a harder one than that of the corresponding foreign school, for with us a culturally and professionally inferior teaching staff deals with larger masses of cruder material. We shall therefore in no event for a long time accomplish at school for larger numbers as much as can be achieved abroad for smaller numbers, more carefully selected. Outside the schools, culture, like character, builds itself to a large extent unconsciously out of casual contacts and subtle influences. What has not been well started between the school on the one hand, and these personal relationships on the other, will be accomplished at college only occasionally, and perhaps in a sense accidentally. Of course, the bars there should be down; every possible opportunity should be created for the cultivation of existing interests and the discovery of new interests. "Browsing around at this juncture," writes President Hopkins of Dartmouth, "may lead a student where some vista will open which

would not have opened otherwise, and this happens often enough to justify the browsing process." Undoubtedly; yet the earnest student, like the busy man of mature years, does not need, and had best not have, too much time to browse in; it would, however, be a poor education, as it would be an impoverished life, that cut browsing off entirely. One wonders whether opportunity in this direction could not be increased by abolishing the traditionally required subjects, for if the college, in addition to intellectual preparation for a definite future, gives full play to the student's unharnessed capacities, then—having organized a cohesive course that leads to a definite end, or having given way to scholarship—it has nothing to gain and much to lose by requiring all students, irrespective of bent or interest, to pursue certain required subjects besides. If our college administrators examine the facts, they may learn that these required courses—a year of science, a year of mathematics, a year of Latin,

or a year of psychology—are generally pursued with a minimum of effort, interest, or profit—and perhaps at the cost of the very thing we are now discussing.

XI

IT IS odd that, despite far more favorable conditions, no college or university administrator to-day takes a leaf from President Gilman's book. While the country was still in the throes of reconstruction, at a time when academic personnel and facilities were—as we should now say—for the most part of secondary school character, inferior in every way to what we now possess, the Johns Hopkins University set up in a southern town a really high academic standard. Intellectual life, far from apparently ready for the stimulus, nevertheless responded vigorously. The sudden impairment of the financial resources of the University interrupted the experiment and lowered its level; but that it would have and could have succeeded, there is no doubt. And

if at that date, obviously all the more certainly now, a distinct upward move on the basis of quality would assuredly be sustained. The rest of the demonstration was fortunately furnished by the Johns Hopkins Medical School, opened in the early nineties with meagre funds, but with high ideals. Fortunately, none of its first group of teachers knew or cared about the deplorable conditions that existed in secondary and collegiate education. They were too ignorant of education and too much absorbed in medical science to ask whether the country was ready for them or not, whether they could get students or not, whether other medical schools could follow their lead or not. They just knew that modern medicine could be taught only to trained students and that medical science could be advanced only if organization, spirit, and facilities favored investigation. So they set up standards for students that some of the teachers could not meet and opened the school with Doctor Billings prophesy-

ing that many years would pass before they could expect to have more than a handful of students. Once more the improbable happened. The country, waiting to be led, made a quick and clear response. Within a single generation, courageous leadership, not troubling itself excessively about existing defects and difficulties, has achieved a thoroughgoing reorganization. There are not wanting signs, far more definite than the signs of those times, that the college and the graduate school that, abandoning the tactics of timid advance, make a stand for purpose and quality, may, like the Johns Hopkins Medical School, be embarrassed by the discovery of the large numbers aching for something more bracing than they are now able to find in any existing American college or university.

II

A MODERN SCHOOL

A MODERN SCHOOL

CURRENT EDUCATION

AS PRESIDENT ELIOT has clearly pointed out in his paper on the "Changes Needed in American Secondary Education", traditional usage still too largely determines both the substance and the purpose of current education. A certain amount of readjustment has indeed taken place; in some respects almost frantic efforts are making to force this or that modern subject into the course of study. But traditional methods and purposes are strong enough to maintain most of the traditional curriculum and to confuse the handling of material introduced in response to the pressure of the modern spirit. It is therefore still true that the bulk of the time and energy of our chil-

dren at school is devoted to formal work developed by schoolmasters without close or constant reference to present individual or social need. The subjects in question deal predominantly with words or abstractions, remote from use and experience; and they continue to be pursued by children because the race has formed the habit of pursuing them, or, more accurately, the habit of going through the form of pursuing them, rather than because they serve the real purposes of persons living to-day. Generally speaking, it may be safely affirmed that the subjects commonly taught, the time at which they are taught, the manner in which they are taught, and the amounts taught are determined by tradition, not by a fresh and untrammeled consideration of present needs.

I am not forgetful of the fact that the moment a student takes fire in studying any subject, no matter how remote or abstract, it assumes a present reality for him. Thus, sometimes through the personality of the teacher, sometimes through

the congeniality of the subject matter, Latin and algebra become as real to some students as woodwork, Shakespeare, biology, and current events are to others. It still remains true, however, that these cases are exceptional; and that most children in the elementary and high schools struggle painfully and ineffectually to bring the subject matter of their studies within a world that is real and genuine to them. The best of them succeed fitfully; large numbers never succeed at all.

Of the traditional curriculum pursued for formal ends, Latin and mathematics constitute the backbone. They get the main stress and most time; and they give the curriculum its distinctive character. Unfortunately complete statistics which would tell us how many of all the pupils who pursue these subjects master them and how many fail to master them do not exist. The records of the College Entrance Examination Board, however, exhibit the results year after year for large numbers of pupils. These statistics, in-

dicating as they do the very unsatisfactory outcome of our efforts in these subjects, are fully sustained by common knowledge. There is no reason to suppose that on the whole the showing would be different if all secondary school pupils were similarly examined by an impartial examining board. Doubtless some of those who make a poor showing do not do themselves justice, but, on the other hand, some of those who attain the passing mark do so by means of devices that stultify rather than develop the intelligence; for in the teaching of ancient languages and formal mathematics pupils are often drilled in the mechanical use of symbols, the meaning of which they are not enabled to penetrate. In Latin the unintelligent use of translations often defeats the purpose of the study. As far as these pupils are concerned, there is no point in inquiring whether a knowledge of Latin and mathematics is valuable, since they do not get it, and it is equally beside the mark to inquire whether the effort to obtain this

knowledge constitutes a valuable discipline, since the only habits acquired are habits of slipshod work.

A word should perhaps be said at this point by way of explaining why the Germans appear to succeed where we fail. There are two reasons. In the first place, the German gymnasium makes a ruthless selection. It rejects without compunction large numbers whom we in America endeavor to educate; and on the education of this picked minority it brings to bear such pressure as we can never hope to apply—family pressure, social pressure, official pressure. Under such circumstances, success is possible with relatively small numbers; but the tide of opposition to the monopoly of the classical gymnasium and the development of modern schools with equivalent privileges show that even in Germany the traditional education has been forced to accept alternative types for different abilities and different inclinations.

But not only do American children as

a class fail to gain knowledge or power through the traditional curriculum—they spend an inordinately long time in failing. The period spent in school and college before students begin professional studies is longer in the United States than in any other western country. The saving of two or three years is urgently necessary. The Modern School must therefore not only find what students can really learn, it must feel itself required to solve its problem within a given number of years—the precise number being settled in advance on social, economic, and professional grounds. Its problem may perhaps be formulated in these terms: How much education of a given type can a boy or girl get before reaching the age of, let us say, twenty, on the theory that at that age general opportunities terminate?

A MODERN CONCEPTION OF EDUCATION

Before I undertake to do this, it is necessary to define education for the purpose of this sketch; and for obvious reasons

this definition will be framed from a practical rather than from a philosophical point of view. All little children have certain common needs; but, beginning with adolescence, education is full of alternatives. The education planned for children who must leave school at fourteen necessarily differs in extent and thus to a degree in content from that feasible for those who can remain, say, two years longer, so as to acquire the rudiments of a vocation. Still different are the possibilities for children who have the good fortune to remain until they are eighteen or twenty, reasonably free during this lengthened period from the necessity of determining procedure by other than educational considerations. The Modern School of which we are now speaking contemplates liberal and general education in the sense last mentioned. With regard to children who expect to enjoy such opportunities, what do we moderns mean when we speak of an educated man? How do we know and recognize an educated

man in the modern sense? What can he do that an uneducated man—uneducated in a modern sense—cannot do?

I suggest that, in the first place, a man educated in the modern sense has mastered the fundamental tools of knowledge: he can read and write; he can spell the words he is in the habit of using; he can express himself clearly orally or in writing; he can figure correctly and with moderate facility within the limits of practical need; he knows something about the globe on which he lives. So far there is no difference between a man educated in the modern sense and a man educated in any other sense.

There is, however, a marked divergence at the next step. The education which we are criticizing is largely formal and traditional. If objection is made to this or that study on the ground that it is for large numbers useless or unsuitable, the answer comes that it "trains the mind" or has been valued for centuries. "Training the mind" in the sense in which the

claim is thus made for algebra or ancient languages is an unproved assumption based on the fact that most persons who possess more or less well-trained minds happen to have had to pass through the traditional training; whether that training was in all or in most instances the most effective or suitable training is a point usually ignored. A man educated in the modern sense will forego the somewhat doubtful mental discipline received from formal studies; he will be contentedly ignorant of things for learning which no better reason than tradition can be assigned. Instead, his education will be obtained from studies that serve real purposes. Its content, spirit, and aim will be realistic and genuine, not formal or traditional. Thus, the man educated in the modern sense will be trained to know, to care about, and to understand the world he lives in—both the physical world and the social world. A firm grasp of the physical world means the capacity to note and to interpret phenomena; a firm grasp

of the social world means a comprehension of and sympathy with current industry, current science, and current politics. The extent to which the history and literature of the past are utilized depends, not on what we call the historic value of this or that performance or classic, but on its actual pertinency to genuine need, interest, or capacity. In any case, the object in view would be to give children the knowledge they need, and to develop in them the power to handle themselves in our own world. Neither historic nor what are called purely cultural claims would alone be regarded as compelling.

Even the progressive curricula of the present time are far from accepting the principle above formulated. For, though they include things that serve purposes, their eliminations are altogether too timid. They have occasionally dropped, occasionally curtailed, what experience shows to be either unnecessary or unsuitable. But they retain much of the traditional course of study, and present it in tradi-

tional fashion, because an overwhelming case has not—so it is judged—yet been made against it, or because a satisfactory substitute has not been developed and accepted. If, however, the standpoint which I have urged were adopted, the curriculum would contain only what can be shown to serve a purpose. The burden of proof would be on the subject, not on those who stand ready to eliminate it. If the subject serves a purpose, it is eligible to the curriculum; otherwise not. I need not stop at this juncture to show that "serving a purpose," "useful," "genuine," "realistic," and other descriptive terms are not synonymous with "utilitarian," "materialistic," "commercial," etc., for intellectual and spiritual purposes are genuine and valid, precisely as are physical, physiological, and industrial purposes. That will become clear as we proceed.

It follows from the way in which the child is made and from the constitution and appeal of modern society that objects and phenomena will play a very promi-

nent part in the Modern School. Conventional education, with its grammar-taught languages, its abstract mathematics, its history, etc., is prematurely and excessively bookish. Books and bookish things have indeed their own place and value in a modern scheme of education, as I shall in a moment point out; but the child's concrete experience cannot be abridged without serious damage to his unfolding powers. His intellectual and æsthetic capacities ought to develop on the basis of a first-hand experience, not a second-hand or bookish training. The boy who interrupts his schooling to spend a year on a ranch or in the desert not only hardens his body, but enriches his inner life with impressions that give meaning to the poems he will read, the pictures he will see, the music he will hear in later years. Schools cannot all be located in the mountains, the hills, or the open country; but the Modern School must deliberately face the problem of amplifying and enriching the child's sense ex-

perience to the end that he may not be restricted to the second-hand impressions derived from the printed page.

It is, however, clear that mere knowledge of phenomena, and mere ability to understand or to produce objects fall short of the ultimate purpose of a liberal education. Such knowledge and such ability indubitably have, as President Eliot's paper pointed out, great value in themselves; and they imply such functioning of the senses as promises a rich fund of observation and experience. But in the end, if the Modern School is to be adequate to the needs of modern life, this concrete training must produce sheer intellectual power. Abstract thinking has perhaps never before played so important a part in life as in this materialistic and scientific world of ours—this world of railroads, automobiles, wireless telegraphy, and international relationships. Our problems involve indeed concrete data and present themselves in concrete forms; but back of the concrete details

lie difficult and involved intellectual processes. Hence the realistic education we propose must eventuate in intellectual power. We must not only cultivate the child's interests, senses, and practical skill, but we must train him to interpret what he thus gets, to the end that he may not only be able to perceive and to do, but that he may be capable of hard mental work and that he may know in intellectual terms the significance of what he has perceived and done. The Modern School would prove a disappointment, unless greater intellectual power is procurable for its pupils on the basis of a realistic training than they could have procured from an education of any other type.

A MODERN CURRICULUM

Aside from the simply instrumental studies—reading, writing, spelling, and figuring—the curriculum of the modern school would be built out of actual activities in four main fields which I shall designate as science, industry, æsthetics,

civics. Let me sketch briefly a realistic treatment of each of these fields.

The work in science would be the central and dominating feature of the school —a departure that is sound from the standpoint of psychology and necessary from the standpoint of our main purpose. Children would begin by getting acquainted with objects—animate and inanimate; they would learn to know trees, plants, animals, hills, streams, rocks, and to care for animals and plants. At the next stage, they would follow the life cycles of plants and animals and study the processes to be observed in inanimate things. They would also begin experimentation—physical, chemical, and biological. In the upper grades, science would gradually assume more systematic form. On the basis of abundant sense-acquired knowledge and with senses sharpened by constant use, children would be interested in problems and in the theoretic basis on which their solution depends. They will make and understand a fireless

cooker, a camera, a wireless telegraph; and they will ultimately deal with phenomena and their relations in the most rigorous scientific form.

The work in science just outlined differs from what is now attempted in both its extent and the point of view. Our efforts at science teaching up to this time have been disappointing for reasons which the above outline avoids: the elementary work has been altogether too incidental; the advanced work has been prematurely abstract; besides, general conditions have been unfavorable. The high school boy who begins a systematic course of physics or chemistry without the previous training above described lacks the basis in experience which is needed to make systematic science genuinely real to him. The usual textbook in physics or chemistry plunges him at once into a world of symbols and definitions as abstract as algebra. Had an adequate realistic treatment preceded, the symbols, when he finally reached them, would be realities.

The abyss between sense training and intellectual training would thus be bridged.

Of coördinate importance with the world of science is the world of industry. The child's mind is easily captured for the observation and execution of industrial and commercial processes. The industries growing out of the fundamental needs of food, clothing, and shelter; the industries, occupations, and apparatus involved in transportation and communication—all furnish practically unlimited openings for constructive experiences, for experiments, and for the study of commercial practices. Through such experiences the boy and girl obtain not only a clearer understanding of the social and industrial foundations of life, but also opportunities for expression and achievement in terms natural to adolescence. Nor would this industrial work be simply entertaining or informing, though both entertainment and information of this kind possess in themselves high educa-

tional value. Industrial work, properly developed, like the work in science, above discussed, abounds in problems, the solution of which requires thought and effort. The child thus obtains a knowledge which illuminates his every-day life and a genuine discipline involving the thoughtful application of science, mathematics, history, and other studies.

Under the word "æsthetics"—an inappropriate term, I admit—I include literature, language, art, and music—subjects in which the schools are mainly interested from the appreciative side. Perhaps in no other realm would a realistic point of view play greater havoc with established routine. The literature that schools traditionally teach is partly obsolete, partly ill-timed, rarely effective or appealing. Now for most pupils nothing is more wasteful of time or in the long run more damaging to good taste than unwilling and spasmodic attention to selections chosen because history and tradition have stamped them as meritorious or

respectable; nothing more futile for them than the make-believe by which such children are forced to worship as "classics" or "standards" what in their hearts they revolt from because it is ill-adjusted to them. The historic importance or inherent greatness of a literary document furnishes the best of reasons why a mature critical student of literature or literary history should attend to it; but neither consideration is conclusive in respect to a child at school. A realistic treatment of literature would take hold of the child's normal and actual interests in romance, adventure, fact, or what not, and endeavor to develop them into as effective habits of reading as may be. Translations, adaptations, and originals in the vernacular—old and new—are all equally available. They ought to be used unconventionally and resourcefully, not in order that the child may get—what he will not get anyway—a conspectus of literary development; not in order that he may some day be certificated as having

analyzed a few outstanding literary classics; but solely in order that his real interest in books may be carried as far and as high as is for him possible; and in this effort, the methods pursued should be calculated to develop his interest and his taste, not to "train his mind" or to make of him a make-believe literary scholar. There would be less pretentiousness in the realistic than there is in the orthodox teaching of literature, but perhaps in the end the child would really know and care about some of the living masterpieces of the past, and in any event there might exist some connection between the school's teaching and the child's spontaneous out-of-school reading.

Of the part to be played by art and music I am not qualified to speak. I do not even know to what extent their teaching has been thought of from this point of view. I venture to submit, however, that the problem presented by them may not differ in principle from the problem presented by literature. Literature is to be

taught in the Modern School primarily for the purpose of developing taste, interest, and appreciation, not for the purpose of producing persons who make literature or who know somewhat of its history; we hope to train persons, not to write poems or to discuss their historic place, but to care vitally for poetry—though not perhaps without a suspicion that this is the surest way of liberating creative talent. The Modern School would, in the same way, endeavor to develop a spontaneous, discriminating, and genuine artistic interest and appreciation —rather than to fashion makers of music and art. It would take hold of the child where he is and endeavor to develop and to refine his taste; it would not begin with "classics" nor would it necessarily end with them. By way of showing, however, that a real curriculum is not synonymous with an easy curriculum, I may say that, if, as one factor in appreciation, it should be decided that all children should at least endeavor to learn, say, some form of

instrumental music, the fact that there are certain advantages to be gained from an early start must decide the "when" and the "how", regardless of the child's inclination or disinclination. It is none the less true, however, that the child's interests and capacities are in general so fundamental and so significant that the question here raised is not often presented. Most of what a child should do coincides with its own preference, or with a preference very readily elicited. But preference or lack of preference on the child's part is not the sole or final consideration.

The study of foreign languages must be considered in this connection. The case of Latin and Greek will be taken up later; German, French, perhaps other languages are now in question. Languages have no value in themselves; they exist for the purpose of communicating ideas and abbreviating our thought and action processes. If studied, they are valuable only in so far as they are practically mastered —not otherwise; so at least the Modern

School holds. From this standpoint, for purposes of travel, trade, study, and enjoyment, educated men who do not know French and German usually come to regret it keenly. When they endeavor during mature life to acquire a foreign tongue, they find the task inordinately difficult and the results too often extremely disappointing. It happens, however, that practical mastery of foreign languages can be attained early in life with comparative ease. A school trying to produce a resourceful modern type of educated man and woman would therefore provide practical training in one or more modern languages.

The fourth main division which I have called civics, includes history, institutions, and current happenings. Much has been written, little done, toward the effective modernization of historical and social studies; so that, though new views of historical values prevail in theory, the schools go on teaching the sort of history they have always taught and in pretty

much the same way. "Should a student of the past," writes Professor James Harvey Robinson, "be asked what he regarded as the most original and far-reaching discovery of modern times, he might reply with some assurance that it is our growing realization of the fundamental importance and absorbing interest of common men and common things."[1] Now the conventional treatment of history is political. Meanwhile, as Professor Robinson goes on to say, "It is clear that our interests are changing, and consequently the kind of questions that we ask the past to answer. Our most recent manuals venture to leave out some of the traditional facts least appropriate for an elementary review of the past and endeavor to bring their narrative into relation, here and there, with modern needs and demands. But I think that this process of eliminating the old and substituting the new might be carried much farther; that our best manuals are still

[1] "The New History" (New York, 1913), p. 132.

crowded with facts that are not worth while bringing to the attention of our boys and girls and that they still omit in large measure those things that are best worth telling."[1] If this be true, as it appears to be, the realistic approach may make as much difference in history as in literature.

The subject of mathematics offers peculiar difficulty. Perhaps nowhere else is waste through failure so great. Moreover, even when a certain degree of success is attained it happens often that it is quite unintelligent; children mechanically carry out certain operations in algebra, guided by arbitrary signs and models; or they learn *memoriter* a series of propositions in geometry. The hollowness of both performances is evident the moment a mathematical problem takes a slightly unfamiliar turn. The child's helplessness exhibits his striking lack of both mathematical knowledge and "mental discipline." It cannot be that

[1] "The New History," p. 137.

this training through failure is really valuable. Finally, a point might even be made on the ground that algebra and geometry as traditionally taught are mainly deductive exercises, whereas practical living involves the constant interplay of observation, induction, and deduction. The artificiality of conventional mathematics therefore raises a suspicion as to its value—even were the subjects mastered.

The truth is that the position of both algebra and geometry in their current form is historical. Now, let us suppose the realistic standard applied—what sort of mathematics would be taught, how much and when? "Mental discipline" as a formal object is not a "realistic" argument, since, as has been already said, it is an unproved assumption. At any rate, it is for those who believe in it to demonstrate how much good it does most children to make a failure in conventional algebra and geometry. Is the elaborate study of mathematical and spatial relations through algebra and geometry a

valid undertaking for its own sake? If so, neither the disinclination of the child nor the difficulty of the achievement is a reason for abandoning it. Disinclination and difficulty in that case simply put a problem up to the teachers of the subject; it is for them to find ways of triumphing over both. If, however, these studies do not serve a legitimate and genuine purpose, then the mathematical curriculum must undergo a radical reorganization for the purpose of treating algebra and geometry from the standpoint of the other subjects and other activities which they serve. They would be taught in such form, in such amounts, and at such times as would thus be required. Geometry might be decreased in amount by something like two thirds or three fourths[1] and the form of the remaining fourth would be considerably modified; and new

[1] "All the facts of geometry that a skilled mechanic or an engineer would ever need could be taught in a few lessons. All the rest is either obvious or is commercially and technically useless."—D. E. Smith, "Teaching of Geometry" (New York, 1911), p. 7.

types of mathematical instruction and interest might come into general use. It is interesting to observe that doubt as to the soundness and value of our mathematical instruction has recently become so serious that the Association of Teachers of Mathematics in New England has suggested "a one-year course in elementary algebra and geometry of a concrete sort, designed so far as possible to test the pupil's qualifications for future mathematical study";[1] and Doctor Snedden has raised the question as to why girls in high schools or as candidates for college should be required to present algebra; he has also urged that a knowledge of algebra is of no importance to men following law, medicine, journalism, or theology.[2] Professor Breslich, of Chicago, has been attacking the same problem vigorously from a not unrelated point of view.[3] Without

[1]Preliminary Report on Status of Mathematics in Secondary Schools, December, 1914, p. 11.

[2]*Ibid*, p. 4.

[3]"First Year Mathematics" (Chicago, 1906), Author's Preface.

considering any point settled, it is clear that a Modern School which wiped the slate of mathematics and then subsequently wrote upon it only what was found to serve the real needs of quantitative thought and action might evolve a curriculum in mathematics that we should not recognize.[1]

For convenience sake, the four large fields of activity have been separately discussed. But it must be pointed out that the failure of the traditional school to make cross-connections is an additional unreality. The traditional school teaches composition in the English classes; quantitative work, in the mathematics classes; history, literature, and so on, each in its own division. Efforts are indeed making to overcome this separateness, but they have gone only a little way. The Modern School would from the first undertake the cultivation of contacts and cross-

[1]Since this essay was written, the Mathematical Association of America has undertaken a constructive attack upon this problem.

connections. Every exercise would be a spelling lesson; science, industry, and mathematics would be inseparable; science, industry, history, civics, literature, and geography would to some extent utilize the same material. These suggestions are in themselves not new and not wholly untried. What is lacking is a consistent, thoroughgoing, and fearless embodiment. For even the teachers who believe in modern education are so situated that either they cannot act, or they act under limitations that hamper effective effort.

In speaking of the course of study, I have dwelt wholly on content. Unquestionably, however, a curriculum revolutionized in content will be presented by methods altered to suit the spirit and aim of the instruction. For children will not be taught merely in order that they may know or be able to do certain things that they do not know and cannot now do, but material will be presented to them in ways that promote their proper development and growth—individually and

socially. For education is not only a matter of what people can do, but also of what they are.

In the preceding sketch I have made no distinction between the sexes. It is just as important for a girl as it is for a boy to be interested in the phenomenal world, to know how to observe, to infer, and to reason, to understand industrial, social, and political developments, to read good books and to finish school by the age of twenty. Differentiation at one point or another may be suggested by experience. In any event, the Modern School, with its strongly realistic emphasis, will undoubtedly not overlook woman's domestic rôle and family function.

WHAT THE CURRICULUM OMITS

This necessarily brief and untechnical sketch will perhaps become more definite if I look at the curriculum from the standpoint of omissions. Let us restate our guiding thesis: modern education will include nothing simply because tradition

recommends it or because its inutility has not been conclusively established. It proceeds in precisely the opposite way: *it includes nothing for which an affirmative case cannot now be made out.* As has already been intimated, this method of approach would probably result in greatly reducing the time allowed to mathematics, and in decidedly changing the form of what is still retained. If, for example, only so much arithmetic is taught as people actually have occasion to use, the subject will shrink to modest proportions; and if this reduced amount is taught so as to serve real purposes, the teachers of science, industry, and domestic economy will do much of it incidentally. The same policy may be employed in dealing with algebra and geometry. What is taught, when it is taught, and how it is taught will in that event depend altogether on what is needed, when it is needed, and the form in which it is needed.

Precisely the same line of reasoning would be applied to English, history, and

literature. For example: There has been a heated discussion for years on the subject of formal grammar, which has been defended, first, on the ground that it furnishes a valuable mental discipline; second, on the ground that it assists the correct use of language. It is passing strange how many ill-disciplined minds there are among those who have spent years being mentally disciplined now in this subject, now in that. The Modern School would not hesitate to take the risk to mental discipline involved in dropping the study of formal grammar. It would, tentatively, at least, also risk the consequences to correct speech involved in the same step. For such evidence as we possess points to the futility of formal grammar as an aid to correct speaking and writing. The study would be introduced later, only if a real need for it were felt—and only in such amounts and for such periods as this need clearly required.

In respect to history and literature, a Modern School would have the courage

not to go through the form of teaching children useless historic facts just because previous generations of children have learned and forgotten them, and also the courage not to read obsolete and uncongenial classics, simply because tradition has made this sort of acquaintance a kind of good form. We might thus produce a generation in large part as ignorant of the name of the Licinian laws as we who have studied them are ignorant of their contents and significance; a generation that did not at school analyze Milton's "Lycidas" or Burke's speech as we did, who then and there vowed life-long hostility to both. But might there not be an offset if the generation in question really cared about the history and politics of, say, modern England or New York City, and read for sheer joy at one time or another and quite regardless of chronological order Homer, Chaucer, Shakespeare, Walter Scott, Stevenson, Kipling, and Masefield?

Neither Latin nor Greek would be contained in the curriculum of the Modern

School—not, of course, because their literatures are less important than they are reputed to be, but because their present position in the curriculum rests upon tradition and assumption. For most pupils a positive case can be made out for neither. The literary argument fails, because stumbling and blundering through a few patches of Latin classics do not establish a contact with Latin literature. Nor does present-day teaching result in a practical mastery of Latin useful for other purposes. Mature students who studied Latin through the high school, and perhaps to some extent in college, find it as a rule difficult or impossible to understand a Latin document encountered in, say, a course in history. If practical mastery is desired, more Latin can be learned in enormously less time by postponing the study until the student needs the language or wants it. At that stage he can learn more Latin in a few months than he would have succeeded in acquiring through four or five years of

reluctant effort in youth. Nor can the study be generally recommended on the ground that a knowledge of Latin is essential in securing a vigorous or graceful use of the mother tongue, for this is again unsubstantiated opinion, rejected even by men like Viscount Bryce who prize highly the thorough study of the classics by a minority.[1] Finally, the disciplinary argument fails, because mental discipline is not a real purpose; moreover, it would for many students constitute an argument against rather than for the study of Latin. Instead of getting orderly training by solving difficulties in Latin translation or composition, these pupils guess, fumble, receive surreptitious assistance or accept on faith the injunctions of teacher and grammar. The only discipline that such students get from their classical studies is a discipline in doing things as they should not be done.

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[1] "Let us also discard some weak arguments our predecessors have used, such as that no one can write a good English style without knowing Latin." "The Value of Classics," p. 4.

Perhaps an additional word should be added to explain further why, if compulsory Latin is to be dropped because it is ineffectively taught, French and English and science, also ineffectively taught, are to be retained and greatly elaborated. The reason is not far to seek. An objective analysis of the existing social situation discovers, as far as I can see, no need of compulsory instruction in the elements of Latin. Latin is in this respect in the same position as Greek—a fact more and more generally recognized by the colleges in making Latin, like Greek, optional for admission. In addition, despite centuries of experience and prestige, compulsory Latin instruction does not even achieve its immediate object. Surely we have here two irrefutable arguments for interference: (1) the mere rudiments of the subject bear no vital relation to life; (2) even *they* are not generally learned. Why should they then be longer enforced upon the unsuccessful and unwilling? There is no reason to believe

that for pupils in general the subject can be rehabilitated. Meanwhile, once more, let me repeat that this argument has no force against such mastery of the classics as Lord Bryce and Mr. Gilbert Murray advocate and exemplify; nor does it seek to question the value of a knowledge of what is really vital in classical history, art, and literature, access to which is not, as a matter of fact, dependent on the study of the elements of the language.

The same statements can be made in regard to conventional mathematics. It bears no relation to life; its place in the curriculum is traditional; it is unsuccessfully taught. Of course, it must go. On the other hand, an objective study of existing facts shows a definite need in every direction of training in quantitative thinking of a vitalized type. Mathematics of a kind and in amounts to be determined will therefore, as I see it, continue to be found in the secondary curriculum. Meanwhile, students eager to develop as mathematical specialists

will in the future as in the past range as they please.

The fact is that the classics and formal mathematics have declined in relative importance, as science, history, and modern languages have gained both practically and culturally.[1] Failure to teach English, history, or science does not now relieve us of the responsibility of teaching them generally, because any analysis of life shows that we all need them. We have not taught them with success, partly because there has been too little time and emphasis, partly because the methods of teaching have been too largely taken over from the methods developed in teaching

[1]Since the above was written, Mr. Graham Wallas's "Our Social Heritage" (Yale University Press, 1921) has appeared. Speaking of higher education in England, Mr. Wallas says, p. 46: "It was never more than a very small fraction even of exceptionally able young Englishmen who were able to benefit by that renaissance" (viz., in the eighteen twenties and thirties under the leadership of Thomas Arnold and others); "and *the need for other kinds of knowledge than Latin and Greek, language and literature and pure mathematics is now so urgent that both 'Greats' and the mathematical Tripos are rapidly shrinking for want of candidates.*" [Italics mine.]

the formal and traditional subjects, partly for lack of a trained and competent personnel. But whatever the causes, we need these subjects, culturally and practically; they are imbedded in the very conditions of current living. Failure is thus only a challenge to more resourceful and determined effort, for the thing must be done, and on a large scale. It is not indeed educationally the only thing that must be done, but it is perhaps the most urgent. How well it can be done on the large scale upon which we have embarked remains to be ascertained through experience. Between the modern subjects (English, history, literature, vitalized mathematics, and science) on the one hand, and Greek, Latin, and formal mathematics on the other, there is also this important difference: in the very act of living we build out and develop the modern subjects. They are needed; they are used; thus experience tends to develop them quantitatively and qualitatively, beyond the stage at which we leave them

at school—just as it does in the case of spelling, composition and arithmetic. Contrariwise, Latin, Greek, and formal mathematics tend to shrink. Their state grows worse, not better, with the passage of time. Only the very small number who make a profession of them, or, like Lord Bryce, a hobby, improve and develop them beyond the school stage. Inefficient teaching of modern subjects may therefore be in a degree redeemed by subsequent experience; inefficient teaching of the traditional subjects is far less apt to be compensated. Taught with equal inefficiency, the individual, twenty years later, is likely to make a better showing on the modern than on the traditional side; he is likely to have profited more by inefficient teaching in the modern than in the traditional subjects.

EXTRA CURRICULAR ACTIVITIES

So far I have discussed the Modern School only from the standpoint of its

course of study. It is time now to mention other implications of the realistic or genuine point of view. If children are to be taught and trained with an eye to the realities of life and existence, the accessible world is the laboratory to be used for that purpose. Let us imagine a Modern School located in New York City; consider for a moment its assets for educational purposes: the harbor, the Metropolitan Museum, the Public Library, the Natural History Museum, the Zoölogical Garden, the city government, the Weather Bureau, the transportation systems, lectures, concerts, plays, and so on. Other communities may have less, but all have much. As things now are, children living in this rich and tingling environment get for the most part precisely the same education that they would get in the most meagre surroundings. Again, the Modern School is as much interested in the child's body as in his mind. It would therefore provide play facilities, sports, gymnastics. A study of Gary and of the

country day schools, now springing up, should tell us whether the Modern School should or should not seek to provide for the child's entire day. Some of this additional material, we already know pretty well how to organize and use; as for the rest, we shall have to find out.

It is evident that, while in some directions the Modern School would have a fairly clear path, in others it would have to feel its way, and in all its attitude would be distinctly tentative and experimental. To no small extent it would have to create apparatus and paraphernalia as it proceeds. Textbooks, for example, almost invariably conform to tradition, or innovate so slightly as to be, from our point of view, far from satisfactory. The Modern School would thus at the start be at a great disadvantage as compared with established schools that seek gradual improvement through readjustment. But it would have this advantage—that it could really try its experiments with a free hand.

ORGANIZATION OF THE MODERN SCHOOL

President Eliot's paper was called "Changes Needed in Secondary Education." But the habits and capacities needed in a reconstructed secondary school are those whose formation must be begun in the primary school. A modern secondary school cannot be built on a conventional elementary school. If the primary years are lost in the conventional school, the child's native freshness of interest in phenomena has to be recovered in youth—a difficult and uncertain task, which, even if successful, does not make up the loss to the child's fund of knowledge and experience. Nor can the child's singular facility in acquiring a speaking command of other languages be retrieved. The Modern School would therefore have to begin with an elementary school, in which children would be started properly. The relation between elementary and secondary education would be a matter for experimental determination; for what-

ever may prove to be right, the present break is surely wrong. So, also, the relation of the Modern School to the American college would have to be worked out by experience.

POSSIBLE RESULTS

Would the proposed education educate? Many of the disagreeable features of education with which under existing circumstances children are compelled to wrestle would be eliminated. Would not the training substituted be soft—lacking in vigor, incapable of training the child to work against the grain? Again, is there not danger that a school constituted on the modern basis would be unsympathetic with ideals and hostile to spiritual activity?

Two questions are thus raised: (1) the question of discipline, moral and mental; (2) the question of interest or taste.

There is, I think, no harm to be apprehended on either score. The Modern School would "discipline the mind" in

the only way in which most minds can be effectively disciplined—by energizing them through the doing of real tasks. The formal difficulties which the Modern School discards are educationally inferior to the genuine difficulties involved in science, industry, literature, and politics; for formal problems are not apt to evoke prolonged and resourceful effort. It is, indeed, absurd to invent formal difficulties for the professed purpose of discipline, when, within the limits of science, industry, literature and politics, real problems abound. Method can be best acquired, and stands the best chance of being acquired, if real issues are presented. Are problems any the less problems because a boy attacks them with intelligence and zest? He does not attack them because they are easy, nor does he shrink from them because they are hard. He attacks them, because they challenge his powers. And in this attack he gets what the conventional school so generally fails to give—the energizing of his facul-

ties, and a directive clue as to where he will find a congenial and effective object in life.

A word on the subject of what I have just called the "directive clue." Our college graduates are in large numbers pathetically in the dark as to "what next." Even the elective system has not enabled most of them to find themselves. The reason is clear. A formal education, devoted to "training the mind" and to "culture" does little to connect capacity with opportunity or ambition. The more positive endowments, of course, assert themselves; but the more positive endowments are relatively scarce. In the absence of bent, social pressure determines a youth's career in America less frequently than in more tightly organized societies. But an education that from the start makes a genuine appeal will disclose, develop, and specialize interest. It will, in a word, furnish the individual with a clue.

In this connection it may be fairly asked

whether, in the end, it will not turn out that the Modern School practically eschews compulsion. Not at all. But it distinguishes. First of all, the interests of childhood, spontaneous or readily excitable, are of great educational significance: interests in life, objects, adventure, fancy—these the Modern School proposes to utilize and to develop in their natural season. Next, the capacities of childhood—for the learning of languages, for example—of these the Modern School proposes to make timely use with a view to remote contingencies. In the pursuit of these ends, the child will often lag. Nothing in the modernist's theory suggests that he be indulged or humored. Moreover, the full range of what society requires of an educated person will certainly not be contained within the limits of the child's spontaneous interests. There are tools he must know how to use, regardless of his instinctive attitude toward them; things he must know, attitudes he must develop, whether he will

or not. Pressure will therefore be employed, to accomplish anything that needs to be accomplished by pressure, provided it can be so accomplished. Children can and, if necessary, must be compelled to spell and to learn the multiplication table, and anything else that serves a chosen purpose, near or remote; but they cannot be compelled to care about the Faerie Queene, and sheer compulsion applied to that end is wasted. If children cannot through skillful teaching be brought to care about the Faerie Queene, compulsory reading of a book or two is as futile a performance as can be imagined. The Modern School will not therefore eschew compulsion; but compulsion will be employed with intelligence and discrimination.

As to the second question—whether the Modern School would not be spiritually unsympathetic—the answer depends on the relation of genuine interests of a varied character to spiritual activity. It is, of course, obvious that, if the Modern School

were limited to industrial or commercial activities, with just so much language, mathematics, and science as the effective prosecution of those activities requires, the higher potentialities of the child would remain undeveloped. But the Modern School proposes nothing of this kind. It undertakes a large and free handling of the phenomenal world, appealing in due course to the observational, the imaginative, and the reasoning capacities of the child; and in precisely the same spirit and with equal emphasis, it will utilize art, literature, and music. Keeping always within reach of the child's genuine response should indeed make for, not against, the development of spiritual interests. Are science and such poetry as children can be brought to love more likely or less likely to stir the soul than formal grammar, algebra, or the literature selections made on a conventional basis?

The education of the particular pupils who attend the Modern School might prove to be the least of the services ren-

dered by the School. More important would perhaps be its influence in setting up scientific as against dogmatic educational standards. We go on teaching this or that subject in this or that way for no better reason than that its ineffectiveness or harmfulness has not been established. Medicines were once generally and are still not infrequently prescribed on exactly the same basis. Modern teaching, like modern medicine, should be controlled by positive indications. The schools should teach Latin and algebra, if at all, just as the intelligent physician prescribes digitalis and quinine, because they serve purposes that he knows and can state. It goes without saying that the modern curriculum will not teach itself or succeed as a matter of course; tact, insight, and enthusiasm will continue to be of supreme importance to the teacher.

The inauguration of the experiment discussed in this paper would be at first seriously hampered because of the lack of school paraphernalia adapted to its

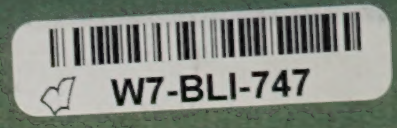
spirit and purposes. Textbooks, apparatus, and methods would have to be worked out—contrived, tentatively employed, remodeled, tried elsewhere, and so on. In the end the implements thus fashioned would be an important factor in assisting the reorganization and reconstruction of other schools—schools that could profit by a demonstration, even though they could not have made the original experiment.

Finally, the Modern School, seeking not only to train a particular group of children, but to influence educational practice, can be made a seminary for the training of teachers, first, its own, then others who will go out into service. The difficulty of recruiting a satisfactory staff to begin with must not be overlooked; for available teachers have been brought up and have taught on traditional lines. On the other hand, the spirit of revolt is rife; and teachers can be found whose efforts have already passed beyond conventional limits.

In education, as in other realms, the inquiring spirit will be the productive spirit. There is an important though not very extensive body of educational literature of philosophical and inspirational character; but there is little of scientific quality. The scientific spirit is just beginning to creep into elementary and secondary schools; and progress is slow, because the conditions are unfavorable. The Modern School should be a laboratory from which would issue scientific studies of educational problems—a laboratory, first of all, which would test and evaluate critically the fundamental propositions on which it is itself based, and the results as they are obtained. Too commonly educational innovations have been recommended with excessive enthusiasm and have been promoted on the basis of faith or insight rather than on the basis of critically examined experience. The Modern School is suggested by an objective study of the conditions which our schools must somehow meet.

But its success cannot be regarded as a foregone conclusion. However plausible the arguments in its favor, final judgment cannot be favorable unless the students it turns out are keener, abler, better organized, more resourceful, and more highly cultivated than the products we have ventured to criticize.

THE END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